

WHAT IS CLAIMED IS:

- 1 1. A nipple for use with a baby bottle, the nipple comprising:
2 an outer member with an annular securing flange and a flexible central
3 membrane portion extending from the securing flange to define an aperture at a nursing
4 end thereof, the central membrane portion comprising an inner surface and a flexible flap
5 extending inwardly from the inner surface; and
6 an inner member having a flexible inner membrane positioned at least
7 partially within the central portion of the outer membrane, the inner member defining a
8 valve passage therethrough arranged to be selectively obstructed by the flap ;
9 wherein the outer member and the inner member define therebetween a
10 holding chamber having the valve passage as an inlet and the aperture as an outlet, the
11 holding chamber comprising a first section that receives the fluid when the outer
12 membrane is released and a second section in hydraulic communication with the aperture,
13 a compromisable seal being disposed between the first section and the second section to
14 effectively isolate the first section of the holding chamber from the aperture when the
15 outer member is released;
16 wherein the flap is positioned on a side of the valve passage nearest the
17 holding chamber to inhibit flow from the holding chamber through the valve passage
18 when the membrane of the outer member is compressed to collapse the holding chamber,
19 and to deflect away from the valve passage to allow the holding chamber to receive a
20 fluid through the valve passage when the outer membrane is released.
- 1 2. The nipple of claim 1 wherein the flap defines a hole therethrough, the
2 flap being manually positionable to align the hole with the valve passage to establish a
3 hydraulic communication path into the holding chamber.
- 1 3. The nipple of claim 2 wherein the membrane portion of the outer member
2 has an exposed surface with a delineated region adjacent the flap, the delineated region of
3 the outer member being manipulable to move the flap to align the hole with the valve
4 passage.

1 4. The nipple of claim 1 wherein the compromisable seal prevents passage of
2 fluid therebetween when the membrane of the outer member is in a relaxed position, and
3 allows passage of fluid therebetween when the membrane of the outer member is
4 compressed to collapse the holding chamber.

1 5. The nipple of claim 1 wherein the compromisable seal is defined by an
2 annular portion of the membrane of the outer member that contacts an annular portion of
3 the membrane of the inner member.

1 6. The nipple of claim 1 wherein the aperture provides a hydraulic
2 communication path for passing fluid out of the holding chamber when the membrane of
3 the outer member is compressed.

1 7. The nipple of claim 1 wherein the aperture comprises a slit in the outer
2 membrane that opens to allow passage of fluid when the outer membrane is compressed
3 and closes to prevent passage of fluid when the outer membrane is in a relaxed position.

1 8. The nipple of claim 1 further comprising a plurality of valve passages and
2 a plurality of corresponding flaps, wherein each valve passage is selectively obstructed
3 by a corresponding flap.

1 9. The nipple of claim 8 wherein two of the flaps, positioned opposite each
2 other, define priming holes therethrough and are manipulable to align their priming holes
3 with respective valve passages to establish a hydraulic communication path into the
4 holding chamber.

1 10. The nipple of claim 1 wherein the inner member comprises a rigid base
2 ring from which the flexible membrane of the inner member extends.

1 11. The nipple of claim 10 wherein the membrane of the inner member is
2 formed of a flexible material that extends across a lower surface of the base ring to form
3 a gasket seal for engaging an upper rim of a bottle.

1 12. The nipple of either of claims 10 wherein the base ring defines recesses
2 arranged to receive alignment features of the outer member, to rotationally align the inner
3 and outer members.

1 13. The nipple of claim 1 wherein the outer and inner members are integrally
2 formed.

1 14. The nipple of claim 1 wherein the membrane of the inner member is
2 removable from within the outer member.

1 15. The nipple of claim 1 wherein the inner and outer members have
2 corresponding rotational alignment features that inhibit inserting the inner member into
3 the outer member except with the inner and outer members in operative relative
4 alignment.

1 16. The nipple of claim 1 wherein the membrane of the inner member defines
2 an orifice sized to pass a small amount of fluid therethrough when suction is applied to
3 the aperture.

1 17. A bottle for feeding a baby, the bottle comprising:
2 a container for holding a fluid and including an open end for passage of
3 the fluid;
4 a nipple according to claim 1; and
5 a securing device positioned to mate with the securing flange of the outer
6 member to secure the nipple to the open end of the container.

1 18. A method of delivering fluid to a baby, the method comprising:
2 securing a nipple according to claim 1 to an open end of a container
3 holding a fluid; and then
4 positioning the aperture of the nipple inside a baby's mouth, thereby
5 enabling the baby's mouth to:

6 apply a compressive force to the membrane of the outer member to
7 collapse the membrane of the outer member to force fluid from the holding chamber and
8 through the aperture; and then

9 release the membrane of the outer member, thereby enabling the holding
10 chamber to receive more fluid from the container through the valve passage.

1 19. The method of claim 18 further comprising, prior to positioning the
2 aperture of the nipple inside a baby's mouth, manually priming the nipple.

1 20. The method of claim 19 wherein priming the nipple comprises:
2 positioning the container so that the fluid is in contact with the nipple; and
3 manually manipulating a delineated region on an outer surface of the outer
4 member to move the flap to align a hole in the flap with the valve passage.

1 21. The method of claim 20 wherein manipulating the delineated region
2 comprises manually compressing the delineated region.

1 22. The method of claim 20 wherein priming the nipple further comprises
2 allowing fluid to flow from the container, through the valve passage, through the hole in
3 the flap and into the holding chamber while the hole remains aligned with the valve
4 passage.

1 23. The method of claim 18 wherein securing the nipple comprises aligning
2 rotational alignment features of the inner and outer members to place the inner and outer
3 members in operative relative alignment.

1 24. A method of priming a nipple for a baby bottle, the method comprising:
2 securing a nipple according to claim 3 to an open end of a container
3 holding a fluid;
4 orienting the bottle so that the fluid is in contact with the nipple; and
5 applying a compressive force to the delineated region of the outer member
6 to deform the outer member in such a manner that the hole of the flap aligns with the
7 valve passage of the inner member.